



## Neonates in Ahmedabad, India, during the 2010 heat wave: A climate change adaptation study

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**Author(s):** Kakkad K, Barzaga ML, Wallenstein S, Azhar GS, Sheffield PE  
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### Abstract:

Health effects from climate change are an international concern with urban areas at particular risk due to urban heat island effects. The burden of disease on vulnerable populations in non-climate-controlled settings has not been well studied. This study compared neonatal morbidity in a non-air-conditioned hospital during the 2010 heat wave in Ahmedabad to morbidity in the prior and subsequent years. The outcome of interest was neonatal intensive care unit (NICU) admissions for heat. During the months of April, May, and June of 2010, 24 NICU admissions were for heat versus 8 and 4 in 2009 and 2011, respectively. Both the effect of moving the maternity ward and the effect of high temperatures were statistically significant, controlling for each other. Above 42 degrees Celsius, each daily maximum temperature increase of a degree was associated with 43% increase in heat-related admissions (95% CI 9.2-88%). Lower floor location of the maternity ward within hospital which occurred after the 2010 heat wave showed a protective effect. These findings demonstrate the importance of simple surveillance measures in motivating a hospital policy change for climate change adaptation - here relocating one ward - and the potential increasing health burden of heat in non-climate-controlled institutions on vulnerable populations.

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### Resource Description

#### Exposure :

weather or climate related pathway by which climate change affects health

Temperature

**Temperature:** Extreme Heat

#### Geographic Feature:

resource focuses on specific type of geography

Urban

#### Geographic Location:

resource focuses on specific location

Non-United States

# Climate Change and Human Health Literature Portal

**Non-United States:** Asia

**Asian Region/Country:** India

**Health Impact:** ☒

specification of health effect or disease related to climate change exposure

Injury, Other Health Impact

**Other Health Impact:** heat related admission to NICU

**Intervention:** ☒

strategy to prepare for or reduce the impact of climate change on health

A focus of content

**Medical Community Engagement:** ☒

resource focus on how the medical community discusses or acts to address health impacts of climate change

A focus of content

**Mitigation/Adaptation:** ☒

mitigation or adaptation strategy is a focus of resource

Adaptation

**Population of Concern:** A focus of content

**Population of Concern:** ☒

populations at particular risk or vulnerability to climate change impacts

Children

**Resource Type:** ☒

format or standard characteristic of resource

Research Article

**Resilience:** ☒

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

A focus of content

**Timescale:** ☒

time period studied

Time Scale Unspecified